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Batrachyla taeniata (Girard, 1855): filling the distribution gap and describing a new type of habitat for this species in central Chile

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Abstract: We report a new locality for *Batrachyla taeniata*, which fills a 290 km gap in its geographic distribution. The records add a new type of habitat for *B. taeniata*, which was recorded in commercial plantations of *Pinus radiata*.

Key words: Maulino Forest; Amphibians; distribution; pine plantations; conservation

Batrachyla taeniata (Girard, 1855) exhibits the widest geographic range of the four *Batrachyla* species, spanning approximately 1,600 km. Its northern limit is Zapallar (32°33′ S, 071°27′ W), and its southernmost known record is Río Mosco (48°48′ S, 072°58′ W) (Correa et al. 2014). Despite its wide distribution, *B. taeniata* exhibits a hiatus in the coastal region of central Chile. In Maule Region, there exist only two records of this species, one in the Andean Range and the other in the Intermediate Depression but none in the Coastal Range of this region (Figure 1). Hence, there is a 290 km gap in the coastal area between the southernmost record in Libertador General Bernardo O'Higgins Region and the northernmost record in Bío-Bío Region (Figure 1). This discontinuous distribution is thought to represent an artifact of incomplete knowledge (Sallaberry et al. 1981). In fact, the herpetofauna of this region has received scarce attention (Simonetti et al. 1995). A recent record supports this assertion and increases the range of environments known for *B. taeniata*.

During sampling of amphibians at Trehualemu (35°58′S, 072°44′W), *B. taeniata* were recorded within a mature *Pinus radiata* plantation (Figure 2). This stand exhibits dense understory vegetation and is located 5.3 km from Reserva Nacional Los Queules (35°59′S, 072°41′W). Specimens were not collected but photographed for species determination (Figure 3). Sampling was carried out on four days per month from August to November 2015. Surveying was performed through active search in four transects of 20 × 2 m, in each site of five sites, of four different habitat types: a) native forest, b) fragments of forest, c) mature pine plantations and d) young pine plantations.

Following Rabanal and Nuñez (2008), recorded individuals were ascribed to *B. taeniata* due to the presence of diagnostic features such as the dark stripe from nares to tympanic ring (Figure 2). The sympatric *B. leptopus* (Cuevas and Cifuentes 2010) can be differentiated from *B. taeniata* by its rounded head and mouth, a highly variable dorsal coloration with irregular spots over a lighter skin as well as the presence of dark pigmented

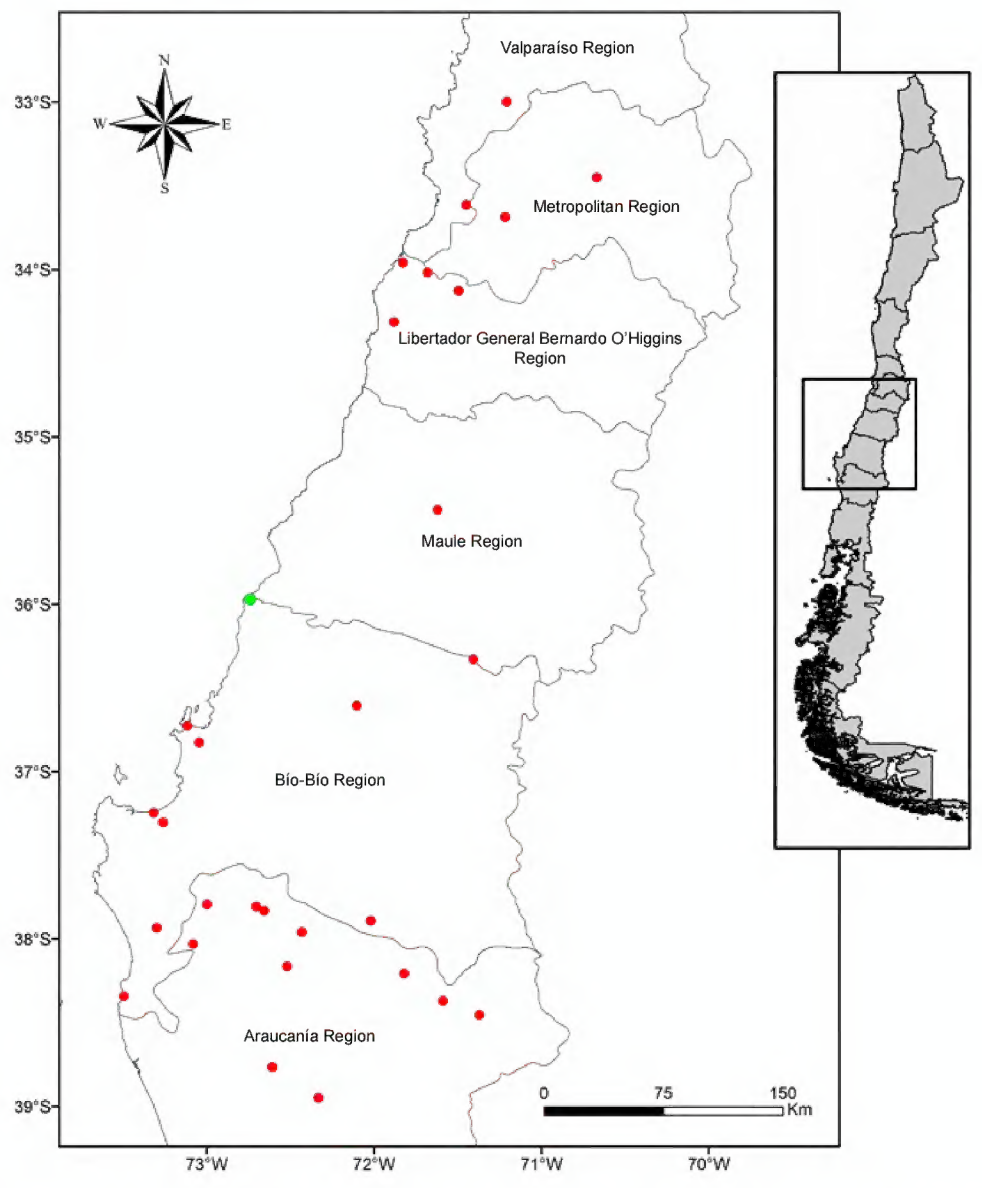

Figure 1. Distribution map of *Batrachyla taeniata*. Red dots represent historic localities (records obtained from Sallaberry et al. 1981; Brieva and Formas 2001; Cuevas and Cifuentes 2010; Correa et al. 2014). The green dot corresponds to the new record.

Figure 2. Environment in which *Batrachyla taeniata* was found, a plantation of *Pinus radiata* with mature understory.

bracelets in the legs. Species identification was further corroborated by José J. Nuñez from Universidad Austral de Chile.

Eighty-two amphibians were recorded with an overall sampling effort of 26.3 person-hours (native forest = 7.5 person-hours; forest fragments = 5.6 person-hours; mature pine plantations = 6.2 person-hours; young pine plantations = 7 person-hours). Despite this scant sampling effort, five species were recorded: *Eupsophus septentrionalis* (76 out of 82 individuals), *Pleurodema thaul* (one out 82), *Alsodes vanzolinii* (one out of 82), *Telmatobufo bullocki* (one out of 82) and *Batrachyla taeniata* (three out of 82). All *B. taeniata* were recorded in mature plantations (Figure 3).

The occurrence of *B. taeniata* at Trehualemu fills the distributional 290 km north–south gap along the coast (Figure 1), reinforcing the contention that this species has a broad continuous distribution (Correa et al. 2014; see also Cei 1962). The absence of records might represent lack of adequate sampling in central Chile or local extirpation due to intense habitat modification (Cuevas et al. 2014). While *B. taeniata* is regarded as common, populations in central Chile are believed to be in decline due to deforestation and wood plantations (IUCN SSC Amphibian Specialist Group 2015). However, its presence in a commercial plantation of an exotic conifer species suggest that its habitat breadth might be larger than hitherto recognized. Similarly, *Alsodes vanzolinii* (Rabanal and Alarcón 2010), *Eupsophus septentrionalis*, *Calyptocephalella gayi* and *Telmatobufo bullocki* (Escobar et al. 2005) are also recorded within *P. radiata* plantations. In all cases, plantations exhibit a mature understory, a structural component that mitigates the impact brought about by forestry plantations and might provide a surrogate habitat, contributing to the conservation of the native fauna, amphibians included (Simonetti et al. 2013, Cerda et al. 2015). Records at Trehualemu confirm the continuous distribution and the capacity of *B. taeniata* to thrive in disturbed habitats such as forestry plantations.

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Figure 3. Individual of *Batrachyla taeniata* (not collected).

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